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09/687,445	10/13/2000	Charles Lee Asplin	ASPL-007	1343

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EXAMINER

ADDIE, RAYMOND W

ART UNIT

PAPER NUMBER

3673

DATE MAILED: 12/19/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
**09/687,445**

Applicant(s)  
**Charles Asplin**

Examiner  
**Raymond Addie**

Art Unit  
**3673**



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Oct 13, 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some\* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 2 20) ☐ Other:

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## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wildon # 5,558,474.

Wildon discloses an apparatus for discharging sand under pressure. Said apparatus comprising:

A sand storage tank (11) having a sand outlet (12).

A compressed air source (such as a compressor driven by an internal combustion engine).

A mixing chamber (17/14a/13) connected to said sand outlet and said compressed air source.

An elongate air and sand delivery line (14) connected to said mixing chamber.

An injector gun having a gun valve (21) and a gun nozzle for the delivery of sand/air mixture.

Although Wildon does not disclose the device specifically for lifting and leveling slabs or pavement. However, what is claimed is an obvious use of the claimed apparatus. Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to use the sand discharging apparatus of Wildon to inject a well known fill material into a subgrade.

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2. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wildon in view of Casella # 5,974,611. Wildon discloses essentially all that is claimed, except for the use of a safety valve disposed with an injector gun. However, Casella teaches an interlocking, multipurpose air tool (1) comprising a pressure relief valve (46) which can be connected to a venturi system. See Casella col. 4, lines 64-67. Therefore, it would have been obvious to one of ordinary skill at the time the invention was made, to provide the sand discharging apparatus of Wildon, with a discharging gun having a pressure relief valve, as taught by Casella, in order to provide safety to an operator.

3. Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wildon in view of Casella as applied to claim 2 above, and further in view of Cary-Yard # 4,850,752. Wildon discloses essentially all that is claimed except for a mixing chamber comprising a small diameter hose fitted inside a sand outlet. However, Carey-Yard, as cited by the Applicant, teaches a stone-blowing tool (10) comprising: a smaller diameter hose (12) for supplying compressed air fitted inside a larger diameter stone outlet (14), thereby creating a "Venturi effect". Therefore, it would have been obvious to one of ordinary skill, in the art, at the time the invention was made to provide the sand delivery system of Wildon in view of Casella with the mixing chamber as taught by Carey-Loud, in order to facilitate delivery of the fill material via a vacuum created under a "Venturi effect".

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In regards to Claims 4-6 Wildon in discloses the use of a flow control valve (18) disposed between said compressed air source and said sand outlet; a flow control valve (12) disposed between said sand storage tank (11) and said mixing chamber, and that the air source is a high volume air compressor. Casella teaches the use of pressure relief valves and venturi systems in combination with a particulate dispensing gun. Hence, it would be obvious to provide a pressure relief valve See col. 2; fig. 1.

4. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wildon in view of Poulter # 2,074,756 and Casella # 5,974,611.

Wildon discloses all that is claimed, as put forth with respect to Claim 1, above; and further discloses the use of a "well dried" sand, in that a water filter (19) is disposed within air inlet line (20) in order to remove any moisture present in the compressed air, being delivered to said sand storage tank (11).

What Wildon does not disclose is a gun nozzle having a pressure relief valve, that can fit in substantially fluid tight connection with a drilled hole in a slab. However, Poulter discloses a fluid placing and pavement raising apparatus (A,D,E) for delivering a well known fill material underneath a concrete slab, such as pavement. Said apparatus comprising: An injector gun having a nozzle (1) and a valve (22). Said nozzle (1) further comprising a nozzle extension (24) that fits in a fluid tight connection with a drilled hole (B) in said slab. Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to provide

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the sand discharging apparatus of Wildon, with a sand delivery nozzle, which can be fit into a fluid tight connection with a drilled hole in a slab, as taught by Poulter, in order to raise and/or level a concrete slab. See Poulter col. 2, line 64-col. 3, line 8. Casella teaches an interlocking multipurpose air tool for delivering a particulate material, under pressure. Said air tool having a plurality of pressure relief valves (46, 47). Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to provide the pavement lifting apparatus of Wildon in view of Poulter, with a particulate gun having a pressure relief valve, as taught by Casella, in order to dispense different types of fill material under different pressure ranges. See Casella col. 1, lines 1-5; col. 2, lines 37-50; col. 4, lines 64-67; col. 5, lines 10-15.

5. Claims 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wildon in view of Poulter and Casella, as applied to claim 7 above, and further in view of Car3y-Yard # 4,850,752.

Wildon in view of Poulter and Casella disclose essentially all that is claimed except for a mixing chamber comprising a small diameter hose fitted inside a sand outlet. However, Carey-Yard teaches a stone-blowing tool (10) comprising: a smaller diameter hose (12) for supplying compressed air fitted inside a larger diameter stone outlet (14), thereby creating a "Venturi effect". Therefore, it would have been obvious to one of ordinary skill, in the art, at the time int was made to provide the sand delivery system of Wildon in view of Poulter, with the mixing

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chamber as taught by Carey-Loud, in order to facilitate delivery of the fill material via a vacuum created under a "Venturi effect".

In regards to Claim 9, Wildon discloses the use of a plurality of flow control valves (13, 18, 21) throughout the sand dispensing system. Casella discloses the use of a plurality of pressure relief valves/venturi system (46, 47). It would be obvious to one of ordinary skill in the art, at the time the invention was made, to provide the sand discharging system of Wildon in view of Poulter, with a plurality of pressure relief valves and/or a venturi system, as taught by Casella, in order to prevent overpressurization of the system.

In regards to Claim 11, Wildon discloses the use of a high volume air compressor.

6. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Poulter in view of Wildon.

Poulter discloses a method of lifting and leveling a slab. Said method comprising the steps of:

Supplying a storage tank (A), filled with a well known fill material. Said tank having an outlet.

Supplying a compressed air source in fluid tight connection with said outlet.

Mixing a well known fill material with said compressed air.

Drilling a hole in said slab to be leveled or raised.

Attaching said outlet to said drilled hole via a hose (24).

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What Poulter does not disclose is the method step of delivering said mixture to said drilled hole via an elongate hose and an injector gun. However, Wildon teaches a sand discharging apparatus comprising a sand storage tank, an elongate hose and an injector gun for delivering sand under pressure. Wildon further discloses the method step of: mixing said sand and compressed air in a mixing chamber (17,14a) before said sand and air mixture enters said elongate hose (14). Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to provide the method of raising a slab of Poulter, with the method steps of supplying a sand/air mixture through an elongate hose and gun nozzle, as taught by Wildon, in order to utilize a less expensive, but otherwise well known fill material. See Poulter col. col. 2, lines 45-col. 4, line 8.

7. Claims 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Poulter in view of Wildon as applied to claim 12 above, and further in view of Feldsted. # 4,466,760. Poulter in view of Wildon discloses essentially all that is claimed except for a pressure relief valve disposed between a compressed air source and a sand outlet of a sand storage tank. However, Feldsted teaches a mobile material handler (01). Said apparatus comprising a compressed air supply line (24) having a relief valve (not shown) disposed between an air compressor and a dry material storage tank and a venturi assembly (40) to prevent overpressure within the storage vessel (34). Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to provide the method of raising and lifting a slab of Poulter in view of



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Wildon, with a pressure relief valve as taught by Feldsted, in order to ensure the pressure within the storage vessel does not exceed a predetermined pressure. See Feldsted col. 3, lines 52-60; col. 4, lines 25-29.

In regards to Claims 15, 16 Wildon teaches suppling a sand shutoff valve (13) between said sand storage tank (11) and said mixing chamber (14a/17) and the step of adjusting said sand shutoff valve so as to control the flow of sand to said mixing chamber. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to provide the method of raising and leveling a slab, of Poulter, with the method of supplying and adjusting a shutoff valve, as taught by Wildon, in order to control the rate of sand discharge from the tank. See col. 2, lines 10-24.

### *Conclusion*

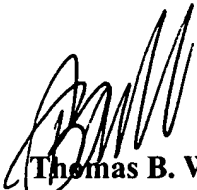
8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Poulter # 2,041,266 discloses a method for raising sunken pavements. Quates, Sr. et al. # 4,511,291 discloses a vauum material conveying apparatus. Haekkinen # 4,567,708 discloses a method for leveling sunken floors and slabs. Boiting et al. # 4,592,679 discloses a pneumatic conveying process.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond Addie whose telephone number is (703) 305-0135. The examiner can normally be reached on Mon-Fri from 6:30 am to 3:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Will, can be reached on (703) 308-3870. The fax phone number for this Group is (703) 305-3597.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1113.



**Thomas B. Will**  
**Supervisory Patent Examiner**  
**Group 3600**

**RWA**  
**12/14/2001**